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BOOK NOTICES

As to Copper from the Mounds of the St. Johns River, Florida, from Part II of Certain Sand Mounds of the St. Johns River, Florida.
By Clarence B. Moore.

Taken in connection with his admirable and thorough treatise on the sand mounds of Florida, of which it forms so conspicuous a part, this chapter by Mr. Clarence B. Moore "As to Copper from the Mounds of the St. Johns River" is in certain essentials one of the most satisfactory and conclusive records of archeologic research that has been made during the year just ended.

As Professor Douglas furnishes a review from the standpoint of the metallurgist, and a clear statement of the main argument of the author, which is based upon chemical analyses of the ancient copper specimens in question, compared with analyses of other examples, both native and European, little remains to be said as to the final and authoritative nature, apparently, of this argument in proof of the aboriginal character of these Floridian and, presumably, of most other like mound remains of the copper art.

Since analyses of this sort are, however, deemed liable, despite every precaution, to mislead, unless supported by other data, it may be well in passing to call attention to the ample archeologic and technologic evidence with which Mr. Moore also supports his conclusions, by which, indeed, it is easy to believe he was first led to not a few of them. In the nature of such evidence are the observations carefully made and recorded by him indicating the primary and, generally speaking, prehistoric character of the mound burials with which these copper remains were found associated, and the still more significant fact that the latter not only bear trace of just such operations as I performed with stone and horn appliances in the experimental reproduction of ancient sheet-copper figures in native metal, but also that the rods of copper intended to be solid enough to serve as "piercers," etc., were made up of bits of the metal economically beaten very thin and rolled and hammered compactly together in a way

which I find would be impossible with brass of any grade or with the ordinary copper of commerce. This applies also and especially to the remarkable rivet-patched plates of large size figured and described by Mr. Moore. They are so obviously made up from small natural masses of copper beaten out, and thus, with minimum waste, as nearly as possible welded together by over and underlapping and the riveting to form solid plates of larger size than could have been shaped from any single piece the makers of them possessed, that one must needs infer, first, the purely aboriginal nature of the work as being that of artisans unacquainted with fusing or soldering; second, the very ancient character of this aboriginal work itself as having originated probably in the effort to use small nodules or bowlders of drift copper such only as was at first accessible to the mound-building Indians before they became acquainted with and worked in the great copper leads of the Lake Superior region, and such as they continued to use for a long time afterward, as indicated by the finds of Powell, Putnam, and other competent observers, even in far southern mounds and graves; and, finally, one must also infer the native origin of the extremely ductile and pure material used in such working, else piecing so perfect as to be unrevealed save by the most careful examination could not have been accomplished by such methods as are above mentioned.

Leaving other points which might, were space available, be noticed with equal propriety, it will suffice if I simply quote the general conclusions reached by Mr. Moore and comprehensively summarized at the close of his essay, and merely add that each claim made in this brief summary is satisfactorily supported by his more detailed studies bearing on or leading up to it, as set forth in the body of the work. These claims (and others less generally, but equally significant, might safely have been adduced by Mr. Moore) are, as stated by him, "after a careful survey of the field," as follows:

"1. That the so-called copper found with objects of European make along the St. Johns and, we may add, in other portions of the United States, is almost universally not copper, but brass; and, conversely, that brass does not occur with original deposits of copper in mounds otherwise containing only objects of unquestioned aboriginal origin.

"2. That the workmanship on the copper of the mounds of the St. Johns is aboriginal.

"3. That the copper itself is of aboriginal production, the proof being mechanical, archeological, and chemical.

"4. That such being the case, if copper plates cannot be produced without recourse to annealing, then we must concede to the aborigines a knowledge of that art.

"5. That the copper of the mounds of the St. Johns is *native* copper, as shown by its high percentage of copper, a percentage not obtainable by early smelting processes, and by its freedom from arsenic and antimony in some instances, and the very small percentage in others of these impurities, which are found to a much greater extent in the early copper from the sulphide ores of Europe. In addition, lead, used in smelting processes of Europe and not eliminated from many of the ores, is present in earlier sheet copper, and is, without exception, absent from native copper and from the copper of the mounds.

"6. That the Florida copper may have been derived from various sources, possibly in part from Mexico, New Mexico, or Arizona, and probably to a certain extent from Cuba,* but that the main supply was obtained from the Lake Superior region, most of whose copper is non-arsenical.

"7. That copper in which silver is visibly present has, so far as is known, for its only source of supply on this continent the Lake Superior region.

"8. Incidentally, that mound copper from other localities, including the copper of the famous Etowah plates of Georgia and of the no less well known Hopewell mounds of Ohio, is, like the Florida copper, aboriginal, having nothing in common with the products of the impure European sulphides and imperfect smelting processes of the fifteenth, sixteenth, and seventeenth centuries."

It would be advantageous, I think, to take this work of Mr.

*This discovery of Cuban copper in the Floridian mounds is of great importance, as bearing also on possible trade relations of the aboriginal inhabitants of Florida and the Mississippi valley, not only with the inhabitants of Cuba, but also, though perhaps indirectly, with those of Yucatan, for I am now inclined to believe (from evidence which has come to hand since my paper on "Primitive Copper Working" was published in the ANTHROPOLOGIST of January, 1894) that such far-reaching trade relations did exist, and that to some slight extent they influenced the arts of both these metal-working peoples.

Moore's not only as a model of its kind, but also as a precautionary example, in our studies of other questions still more or less mooted ; such, for instance, as the occurrence of art products or symbolic designs supposed to be too highly developed to have originated solely with our aborigines or from their resemblance to certain products of old-world art and culture regarded as derived therefrom. It seems not unlikely—and the present work marks a decided step in this direction—that we must ere long, as heretofore urged by such authorities as Major Powell and Dr. Brinton, concede the entire independence in general of American cultures. That the institutions and arts and even the minor art products in the main, no less than the languages of our indigenous tribes, have developed here and alone. It may be true that at many points these native tribes have been touched ; that there may be found here and there traces—mere waifs—of old-world things among their ancient remains. Yet, even so, this has nowhere given rise to a single new art or, until within the last century or two, modified to any considerable extent an old one. Its influence could have been but superficial at best, so evanescent, unless continuously exerted, that in no place can its presence in effects be positively affirmed to the satisfaction of all discriminating inquirers ; such influence, indeed, having wrought only seeming changes beyond mere externals; even within recent times, on such peoples as the Pueblos, whose cultural moods and art usages remain practically unchanged by all its intermittent pressure through full three centuries. Yet, notwithstanding all this, these questions of foreign influence are, on one plea or another, continually being brought forward to the detriment of true progress toward their solution either one way or the other.

Now, it is to just such work as this of Mr. Moore's that we are to look for the evidence we need for putting these contested questions to rest, for it is evident from a perusal of the pages of his work as a whole that he started out without prejudice or predilection, simply from honest interest, and at first merely as a follower in the footsteps of his eminent predecessor, Dr. Jeffrey Wyman ; but that he soon cut a trail for himself through quite unbroken ground, and has ended by making of this simple trail a finished highway, over which we may all travel easily and safely to very definite destinations. F. H. CUSHING.